

**REMARKS**

Applicants respectfully request reconsideration of the present application in view of the following remarks. Prior to this response, claims 45-88 were pending in the application, of which claims 45, 76, 80, and 84 are independent. In the Office Action mailed November 30, 2006, claims 45-75 and 83 were rejected under 35 U.S.C. §112, second paragraph. Claims 45-75, 84-86, and 88 were rejected under 35 U.S.C. § 102. Claims 52-53, 76-84, 86, and 87 were rejected under 35 U.S.C. §103. After this amendment, claims 45-88 remain pending in this application.

I. Objection to the Drawings

The Examiner objected to the drawings because none of the current figures show the "group of cables selected for a predetermined voltage class and having different conductor cross-sectional areas" as recited in claim 80. Applicants enclose a new Figure 7, which shows this feature of claim 80. Because the features depicted in new Figure 7 were previously described in the specification and original claims at least at page 11, lines 16-32; Figure 3; and claims 80-83 as originally presented, Applicants respectfully assert that new Figure 7 introduces no new matter.

II. Amendments to the Specification

The specification has been amended to include a new paragraph at page 14, line 2 identifying new Figure 7. Applicants respectfully submit that this paragraph adds no new matter. The specification has also been amended to include a replacement paragraph at page 27, line 21 describing new Figure 7. Support for this paragraph is included in the specification at least at page 11, lines 16-32, Figure 3, and claims 80-83

as originally presented. Accordingly, Applicants respectfully submit that this replacement paragraph adds no new matter.

III. Rejection Under 35 U.S.C. §112, Second Paragraph

The Examiner rejected claims 45-75 and 83 under 35 U.S.C. §112, second paragraph, asserting that a number of terms and phrases lacked antecedent basis or were unclear. Applicants have amended the claims herein to address the issues raised by the Examiner, and respectfully assert that the claims as amended overcome the rejections under §112, second paragraph.

IV. Rejections Under 35 U.S.C. §102(b)

The Examiner rejected claims 45-51, 55, 57-62, 64-66, 73, 75, 84-86, and 88 under 35 U.S.C. §102(b) as being anticipated by WO 98/52197 ("the '197 reference"). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987); MPEP 2131. Because the '197 reference does not teach each limitation of independent claims 45 or 84, it does not anticipate any of the rejected claims.

Claim 45 recites, among other things, an "insulating layer having a thickness, said insulating layer thickness being such as to provide a voltage gradient on the outer surface of the insulating layer not smaller than 1.0 kV/mm." Claim 45 also recites a protective element comprising at least one expanded polymeric layer, "said protective element thickness being sufficient to prevent a detectable insulating layer damage upon impact of at least 25 J energy." The Examiner contends that the '197 reference, which is discussed in the present application beginning at page 2, line 24 in terms of the

subsequently issued EP-981,821, teaches these features because it discloses "the structure and material as claimed (re claims 45-51)." The Examiner also noted that the '197 reference discloses insulating layer thicknesses and protective element thicknesses similar to those recited in certain dependent claims.

The Examiner has not, however, identified a disclosure in the '197 reference of several recitations of claim 45, as required for an anticipation rejection. To anticipate a claim, the cited reference must show the "identical invention...in as complete detail as is contained in the...claim." MPEP 2131; *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). The '197 reference does not disclose the identical invention in as complete detail as contained in claim 45. For example, whether a particular insulating layer thickness provides such a voltage gradient depends on a number of factors, including but not limited to the properties of the material comprising the insulating layer. Similarly, whether a particular protective element thickness prevents detectable damage to an insulating layer upon impact of at least 25 J energy also depends on a number of factors, such as the material comprising the insulating layer and the material comprising the protective element.

The '197 reference does not disclose the information necessary to determine whether any of the disclosed embodiments achieve these features of claim 45. Nor has the Examiner pointed to anything in the '197 reference indicating that any cable disclosed therein comprises an insulating layer thickness being such as to provide a voltage gradient not smaller than 1.0 kV/mm on the outer surface of the insulating layer and a protective element thickness being sufficient to prevent a detectable insulating layer damage upon impact of at least 25 J energy. Instead, the Examiner appears to

rely on Applicants' disclosure that it is possible to reduce cable dimensions while maintaining its electrical and mechanical properties by correlating the thickness of an insulating layer and a protective element comprising an expanded polymeric layer as recited in claim 45. Because the '197 reference does not disclose the correlation recited in claim 45, it does not anticipate claim 45. Accordingly, Applicants respectfully request that the rejection of that claim, as well as dependent claims 46-51, 55, 57-62, 64-66, 73, 75, be withdrawn.

The Examiner also rejected claim 84 as being anticipated by the '197 reference, contending that claims 84-86 and 88 are method counterparts of claims 45-51. The Examiner provided no further basis for the rejection of claim 84. Applicants respectfully disagree with the Examiner's contention that claim 84 is a counterpart of claim 45, as independent claim 84 recites a number of steps having no counterpart in claim 45. Claim 86 is directed to a method comprising certain steps, including "determining a thickness of said protective element so that said insulating layer is not detectably damaged upon an impact on the cable by an energy of at least 50 J." Claim 86 also recites "determining the thickness for said insulating layer compatible with safe operation in a predetermined voltage class on said selected conductor cross-sectional area in correspondence of one of a number of predetermined electrical limit conditions" and "selecting the maximum insulating layer thickness among those determined in said number of predetermined electrical limit conditions." The Examiner has pointed to nothing in the '197 reference disclosing the performance of either of these steps. Applicants further note that the Examiner rejected claim 84 as being obvious in view of the '197 reference, apparently conceding that the '197 reference does not teach each

limitation of claim 84. As discussed above, in order to anticipate a claim, a reference must be shown in as complete detail as is contained in the claim. MPEP 2131.

Because the '197 reference does not disclose each step recited in claim 84, either expressly or inherently, it does not anticipate claim 84. Accordingly, Applicants respectfully request that the rejection of claim 84, as well as dependent claims 85-86 and 88, be withdrawn.

The Examiner also rejected claims 45-51, 54-56, 58, 61-67, 71-73, 75, 84-86, and 88 under 35 U.S.C. 102(b) as being anticipated by WO 99/33070 ("the '070 reference"). However, like the '197 reference, the '070 reference does not teach a cable that comprises an insulating layer thickness providing a voltage gradient not smaller than 1.0 kV/mm on the outer surface of the insulating layer and a protective element thickness being sufficient to prevent a detectable insulating layer damage upon impact of at least 25 J energy. Nor does the '197 reference, which is discussed in the present application beginning at page 4, line 17, disclose all the structure of any particular embodiment necessary to determine whether that embodiment would provide the features recited in claim 45. Instead, the Examiner appears to view the disclosure of the '070 reference with the benefit of Applicants' disclosure in asserting that the '070 reference anticipates each limitation of the rejected claims. Thus, for the same reasons discussed above with regard to the '197 reference, the '070 reference does not anticipate claim 45 or dependent claims 46-51, 54-56, 58, 61-67, 71-73 or 75.

Similarly, the '070 reference does not anticipate claim 84, or dependent claims 85-86 and 88, for the same reasons discussed above with regard to the '197 reference. In particular, the '070 reference does not teach "selecting the maximum insulating layer

thickness among those determined in said number of predetermined electrical limit conditions” or “determining a thickness of said protective element so that said insulating layer is not detectably damaged upon an impact on the cable by an energy of at least 50 J.” Accordingly, Applicants request that the Examiner withdraw the rejection of the claims rejected as being anticipated by the ‘070 reference.

V. Rejection Under 35 U.S.C. §102(e)

The Examiner rejected claims 45-62, 64-70, and 74-75 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent Application No. 10/488,950 (“the ‘950 application”), which has issued as U.S. Patent No. 7,060,209. However, like the ‘197 reference and the ‘070 reference, the ‘950 application does not teach each limitation of independent claim 45, and therefore does not anticipate any of the rejected claims. Claim 45 recites, among other things, an “insulating layer having a thickness, said insulating layer thickness having a thickness being such as to provide a voltage gradient on the outer surface of the insulating layer not smaller than 1.0 kV/mm.” Claim 45 also recites a protective element comprising at least one expanded polymeric layer, “said protective element thickness being sufficient to prevent a detectable insulating layer damage upon impact of at least 25 J energy.” The Examiner contends that the ‘950 application teaches these features because it discloses the “structure and material as claimed (re claims 45-51).” The Examiner also noted that the ‘950 application discloses insulating layer thicknesses and protective element thicknesses similar to those recited in certain dependent claims.

The Examiner has not, however, identified in the disclosure in the ‘950 application of several recitations of claim 45, as required for an anticipation rejection.

To anticipate a claim, the cited reference must show the "identical invention...in as complete detail as is contained in the...claim." MPEP 2131; *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236 (Fed. Cir. 1989). The Examiner has pointed to nothing in the '950 application disclosing a cable that comprises an insulating layer thickness being such as to provide a voltage gradient not smaller than 1.0 kV/mm on the outer surface of the insulating layer and a protective element thickness being sufficient to prevent a detectable insulating layer damage upon impact of at least 25 J energy. Nor does the '950 application disclose the necessary information to determine whether any of the disclosed embodiments achieve these features of claim 45. Accordingly, the '950 application does not disclose the claimed invention in as complete detail as claim 45, and therefore does not anticipate claim 45, and Applicants respectfully request that the rejection of that claim, as well as dependent claims 46-62, 64-70, and 74-75, be withdrawn.

VI. The Rejection Under 35 U.S.C. §103

The Examiner rejected claims 52, 53, 76-84, 86, and 87 under 35 U.S.C. §103(a) as being obvious in view of the '197 reference. In order to establish a *prima facie* case of obviousness, the cited reference must teach or suggest each limitation of the rejected claim. MPEP 2143. Claims 52 and 53 depend from claim 46. As discussed above, the '197 reference does not teach each limitation of claim 46, nor does it suggest each limitation of claim 46. Accordingly, because claims 52 and 53 depend from claim 46, a *prima facie* case of obviousness has not been established with respect to those claims and Applicants request that the rejection be withdrawn.

The Examiner also rejected claim 76 as being obvious in view of the '197 reference. Claim 76 recites, among other things, a "protective element thickness having a value smaller than 7.5 mm for a conductor cross-sectional area greater than 50 mm<sup>2</sup> and a value greater than 8.5 mm for a conductor cross-sectional area smaller than or equal to 50 mm<sup>2</sup>." The Examiner contends that this feature is merely an optimum or workable range that would have been obvious to one of skill in the art because the general conditions of that claim are disclosed in the '197 reference. However, in order for the determination of an optimum range of a parameter to be characterized as routine experimentation, that parameter must be recognized as a result-effective variable. MPEP 2145.05(II)(B); *In re Antonie*, 559 F.2d 618 (CCPA 1977). Here, the Examiner has pointed to nothing in the prior art suggesting that providing a thickness of a protective element based on the cross-sectional area of a conductor achieves a recognizable result. Consequently, the Examiner's contention that providing a "protective element thickness having a value smaller than 7.5 mm for a conductor cross-sectional area greater than 50 mm<sup>2</sup> and a value greater than 8.5 mm for a conductor cross-sectional area smaller than or equal to 50 mm<sup>2</sup>" involves only routine experimentation is not supported by the prior art. Accordingly, a *prima facie* case of obviousness has not been established and the rejection of claim 76, as well as dependent claims 77-79, should be withdrawn.

The Examiner also rejected claim 80 as being obvious in view of the '197 reference. Claim 80 recites, among other things, a group of cables having different conductor cross-sectional areas and each having "a protective element around said insulating layer comprising at least one expanded polymeric layer, wherein the



thickness of said protective element is in inverse relationship with the conductor cross-sectional area.” Although the Examiner acknowledged that the ‘197 reference does not disclose this feature of claim 80, he did not assert that providing a group of cables each having different cross-sectional areas and a protective element having a thickness, wherein the thickness of the protective element is in inverse relationship with the cross-sectional area of a conductor, would be obvious to one of ordinary skill in the art. Nor did the Examiner point to anything in the ‘197 reference, or any other prior art reference, teaching or suggesting this feature.

Instead, the Examiner simply contended that it would have been obvious to one skilled in the art to choose suitable thickness for the insulating layer and the protective element to meet the specific use of the resulting cable since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. OA at 12. However, “a particular parameter must first be recognized as a result-effective variable...before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation.” MPEP 2144.05. The Examiner has not asserted, much less cited any evidence, that it is recognized in the art that conductor cross-sectional area is a result-effective variable determining the appropriate thickness of a protective element, nor that it is recognized that the thickness of the protective element should have an inverse relationship with the conductor cross-sectional area. Accordingly, a *prima facie* case of obviousness has not been established, and Applicants request that the rejection of claim 80, as well as dependent claims 81-83 be withdrawn.

The Examiner also rejected claim 84 as being obvious in view of the '197 reference. However, as discussed above in regard to the rejection of claim 84 under 35 U.S.C. §102(b), the '197 reference does not teach each limitation of claim 84. Furthermore, the '197 reference does not suggest "determining a thickness of said protective element so that said insulating layer is not detectably damaged upon an impact on the cable by an energy of at least 50 J." In fact, the '197 reference does not suggest choosing a thickness of a protective element that prevents any detectable damage to an insulating layer at all. Similarly, the Examiner has not shown anything in the '197 reference suggesting "selecting the maximum insulating layer thickness among those determined in said number of predetermined electrical limit conditions." Because the '197 reference does not teach or suggest each limitation of claim 84, a *prima facie* case of obviousness has not been established. Accordingly, Applicants request that the rejection of claim 84, as well as dependent claims 86-87, be withdrawn.

VII. Conclusion

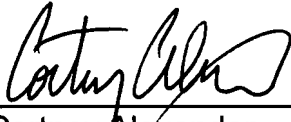
In view of the foregoing remarks, Applicants respectfully request reconsideration of this application and the timely allowance of the pending claims. The preceding arguments are based only on the arguments in the Office Action, and therefore do not address patentable aspects of the invention that were not addressed by the Examiner in the Office Action. The claims may include other elements that are not shown, taught, or suggested by the cited art. Accordingly, the preceding argument in favor of patentability is advanced without prejudice to other bases of patentability.

Please grant any extensions of time required to enter this response and charge any required fees to our deposit account 06-0916.

Respectfully submitted,

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